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Studies on Malagasy Spiders, 2. The Family Trochanteriidae (Araneae, Gnaphosoidea), With a Revision of the Genus *Platyoides*

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ABSTRACT

The spider genus *Platyoides* O. P.-Cambridge, previously placed with the hemicloetine gnaphosoids, is assigned to the family Trochanteriidae Karsch on the basis of the elongated fourth trochanters and laterally divergent chelicerae. The 14 known species are diagnosed, described, and illustrated. Nine specific names are newly synonymized: *P. abrahami* O. P.-Cambridge, *P. bottegi* Pavesi, *P. laterigradus* Pocock, *P. separatus* O. P.-Cambridge, *P. simoni* O. P.-Cambridge, and *P.*

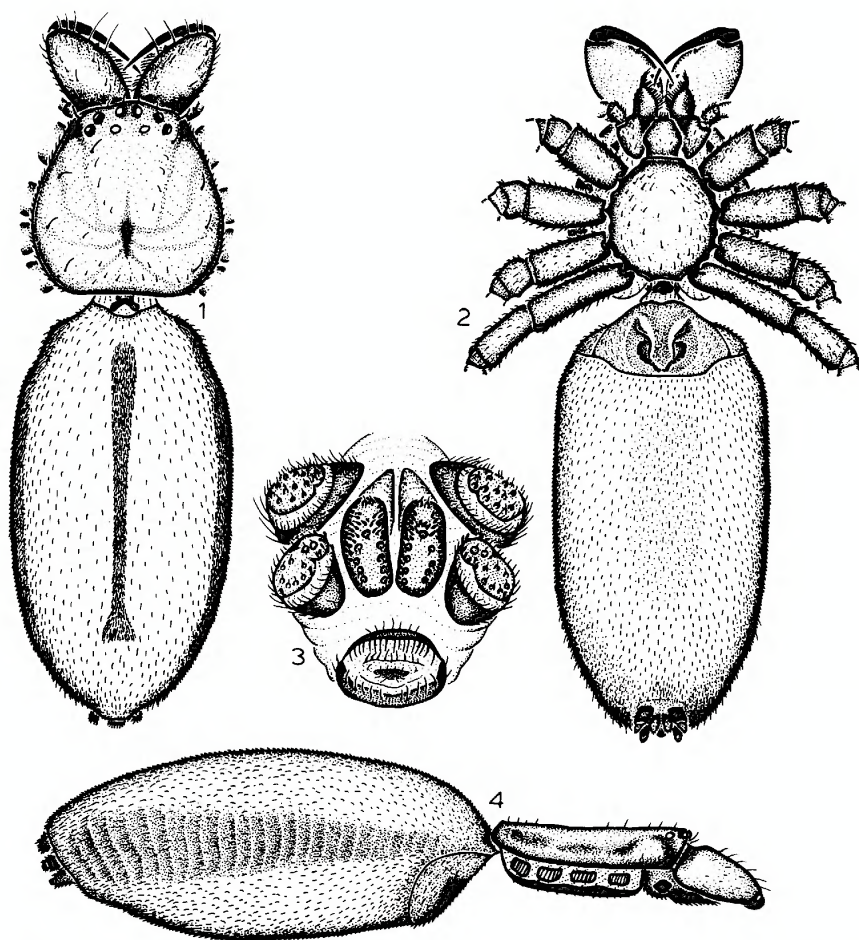
bidentifer Strand, all with *P. walteri* (Karsch); *P. beta* Lawrence with *P. alpha* Lawrence; *P. pusilliformis* Tucker with *P. pusillus* Pocock; and *P. lawrencei* Lessert with *P. leppanae* Pocock. The males of *P. pusillus* Pocock and *P. grandidieri* Simon are described for the first time. Five new species are described: *P. rossi* and *P. pirie* from South Africa, *P. velonus* and *P. mailaka* from Madagascar, and *P. venturus* from the Canary Islands.

INTRODUCTION

The peculiarly flattened gnaphosoid spiders of the genus *Platyoides* (figs. 1-4), first recorded from Madagascar by Simon (1903), are among the most notable elements of the Malagasy hunting spider fauna. The present paper, the twenty-second in a series on gnaphosoids, began simply as a report on the available *Platyoides* specimens from Mada-

gascar. When, however, it appeared that in addition to *Platyoides grandidieri* Simon at least two additional species occur on the island, the question arose as to whether they are Malagasy endemics (*P. grandidieri*, originally described from Madagascar, has subsequently been recorded from Réunion and is also reported below from Aldabra and

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FIGS. 1-4. *Platyoides velonus*, new species, female. 1. Cephalothorax and abdomen, dorsal view. 2. Cephalothorax, coxae, trochanters, and abdomen, ventral view. 3. Spinnerets and anal tubercle, posterior view. 4. Cephalothorax and abdomen, lateral view.

Kenya). Finding the answer to that question required a full revision of the genus, presented below; the two additional Malagasy species proved to be undescribed and (so far as known) endemic to the island.

These results raised additional questions about the interrelationships of the species of *Platyoides*, and about the taxonomic position of the genus. One biogeographically interesting question is whether the three Malagasy species constitute a monophyletic group. Such does not seem to be the case; the closest relative of *P. grandidieri* appears to be a new species described below from the Canary Islands, a conclusion made even more surprising by the absence of any known *Platyoides*

from western Africa north of Angola. Because the other two Malagasy species do not seem to be each other's closest relatives either, it is likely that the genus is old, and that a substantial part of its diversification occurred prior to the separation of Madagascar from continental Africa.

The probably relictual nature of the distribution of *Platyoides* may be reflected in questions recently raised about the taxonomic placement of the genus. Traditionally, *Platyoides* has been considered a member of the Gnaphosidae and assigned to the gnaphosid subfamily Hemicloeiinae, a group of similarly flattened spiders otherwise known only from Australia and neighboring islands. Schmidt

and Jocqué (1983), however, pointed out that the anterior spinnerets of *Platyoides* (fig. 3) are unlike those of *Gnaphosa* and its relatives; they are conical rather than tubular. Because the latter type of spinneret shape is apomorphic (as judged by outgroup comparison with other gnaphosoids and more distantly related groups), the placement of *Platyoides* within the Gnaphosidae is dubious. Schmidt and Jocqué proposed to solve this problem by removing the Hemicloeiinae from the Gnaphosidae and elevating it to familial rank. This solution is reexamined below.

I am indebted to many colleagues for assistance with various aspects of this project. Professor Roland Legendre of the Université des Sciences et Techniques du Languedoc, Montpellier, made available for study the collections from Madagascar that have stimulated this series of papers. Specimens were kindly donated by Mr. W. C. Sedgwick of the American Museum of Natural History (AMNH) and Dr. M. Rambla of the Universidad de Barcelona. Material was made available by the following curators and collectors: Dr. G. Arbocco, Museo Civico di Storia Naturale, Genoa (MCSNG); Mr. P. L. G. Benoit and Dr. R. Jocqué, Musée Royal de l'Afrique Centrale, Tervuren (MRAC); Dr. A. Dippenaar, National Collection of Arachnida, Pretoria (NCAP); Dr. C. Griswold, Natal Museum, Pietermaritzburg (NM); Dr. W. D. Haacke, Transvaal Museum, Pretoria (TM); Dr. B. Hauser, Muséum d'Histoire Naturelle, Geneva (MHNG); Dr. J. Heurtault, Muséum National d'Histoire Naturelle, Paris (MNHN); Mr. P. D. Hillyard, British Museum (Natural History), London (BMNH); Dr. I. Lansbury, Hope Entomological Collections, Oxford (HEC); Mrs. J. Minshall, National Museum of Zimbabwe, Bulawayo (MZB); Dr. M. Moritz, Zoologisches Museum, Berlin (ZMB); Mr. A. J. Penniman, Columbus (AJP); Dr. W. Pulawski, California Academy of Sciences, San Francisco (CAS); Dr. I. D. Wallace, County Museum, Liverpool (CML); and Dr. V. Whitehead, South African Museum, Cape Town (SAM). Drs. C. D. Dondale, R. R. Forster, and C. Griswold reviewed a draft of the manuscript. Assistance with scanning electron micrographs and illustrations was provided by Ms.

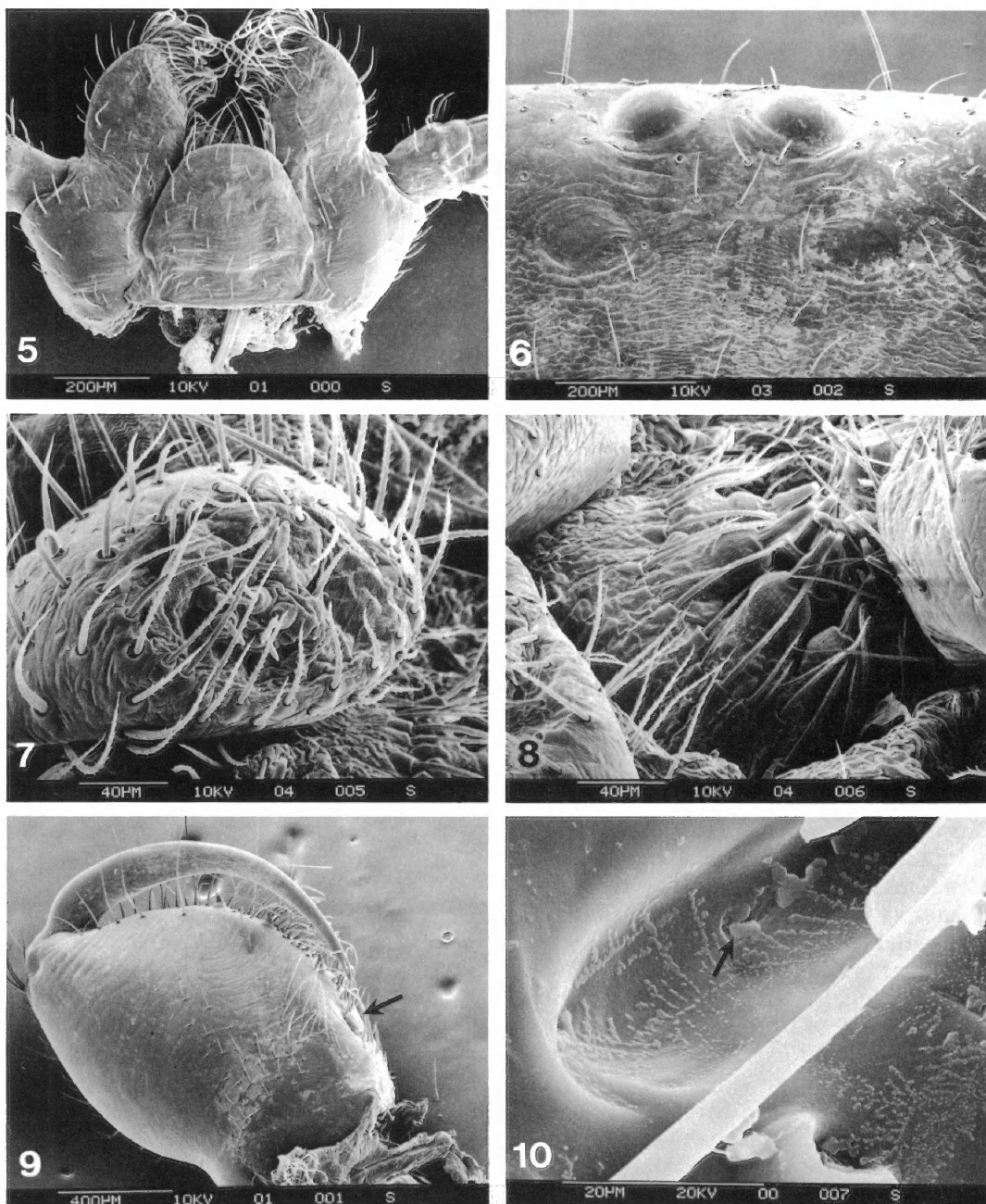
J. Whelan and Dr. M. U. Shadab, respectively. All measurements presented below are in millimeters; abbreviations for eyes are standard for the Araneae.

RELATIONSHIPS

There is little doubt that *Platyoides* has been correctly placed within the superfamily Gnaphosoidea, for its species have all three of the characters that seem to be synapomorphic for that group (Platnick, 1984b): sclerotized anterior spinnerets, obliquely depressed endites (fig. 5), and flattened, irregularly shaped posterior median eyes (fig. 6). Within the Gnaphosoidea, three family-group names have been based on genera that, like *Platyoides*, have flattened bodies and laterigrade legs: Trochanteriidae Karsch (1879), Platoridae Simon (1890), and Hemicloeiinae Simon (1893), the last elevated to familial rank by Schmidt and Jocqué (1983) and also (in a list of species only) by Mello-Leitão (1942, p. 386).

The earliest of these names is based on the Argentinian genus *Trochanteria* Karsch; although the family has been treated as valid by a few workers who have been familiar with its type genus (such as Mello-Leitão, 1938, 1941, 1943), it has been largely ignored. Simon never examined specimens of *Trochanteria*, and suggested (1893, p. 343) on the basis of Karsch's description that the genus might belong to the Hemicloeiinae; his suggestion was followed by catalogers such as Roewer (1954). The family Platoridae, as construed by Simon (1897) and all more recent workers, includes three genera: *Plator* Simon of Asia, *Vectius* Simon of tropical South America, and *Doliomalus* Simon of Chile. As emphasized elsewhere (Platnick, 1976a, 1976b, 1984a) the literature contains no demonstrated synapomorphies uniting those three genera as opposed to any of the other flattened forms (*Platyoides*, *Trochanteria*, or the Australasian hemicloeiines).

The question, then, is: what genus, or group of genera, represents the sister group of *Platyoides*? I have found only one explicit hypothesis in the literature, put forward by Canals (1933), to the effect that *Platyoides* and *Trochanteria* are closest relatives. This hy-



FIGS. 5–10. *Platyoides grandidieri* Simon. 5. Labium and endites, ventral view. 6. Median eyes, dorsal view. 7. Anterior spinneret, posterior view. 8. Median spinneret, posterior view. 9. Chelicera, posterior view; arrow indicates position of cheliceral gland pit. 10. Cheliceral gland pit; arrow indicates position of gland pores.

pothesis appears to be correct. The most obvious feature of *Trochanteria*, reflected in Karsch's choice of name, is that the fourth

trochanter (which in spiders in general is no longer than the trochanters of the first three legpairs) is enormously elongated, reaching

in adults a length virtually as great as that of the fourth femur. As Canals recognized, this bizarre elongation of the fourth trochanter is shared by *Platyoides*, although it is not so pronounced in that genus (fig. 2). The hypothesis of a sister-group relationship between *Platyoides* and *Trochanteria* is also corroborated by the peculiarly enlarged and laterally divergent chelicerae bearing long, curved fangs (figs. 1, 2, 9) found in both genera.

Neither of these features is found in *Hemicloea* (or, for that matter, in *Plator*). Although a consideration of the interrelationships of all the flattened gnaphosoid genera is beyond the scope of the present paper, the nomenclatural aspects are nonetheless clear-cut. Schmidt and Jocqué (1983) were correct in removing *Platyoides* from the Gnaphosidae. However, regardless of whether the various flattened genera prove to constitute a single group (for which the earliest available name is Trochanteriidae) or to belong to more than one group (the Trochanteriidae plus one or more groups which may or may not be true Gnaphosidae), the correct name for the group including *Platyoides* is Trochanteriidae. Accordingly, Schmidt and Jocqué's assignment of *Platyoides* to the Hemicloeiidae is here rejected; as their comments on elevating that group appear to have been based on *Platyoides* rather than on Australasian (true) hemicloeiines, the soundness of their decision will have to be tested by future studies on the latter group.

Indeed, *Platyoides* and *Trochanteria* seem so closely related that one might reasonably ask whether the first genus is monophyletic. After all, the uniquely elongated fourth trochanters of *Trochanteria* (and the possibly synonymous Argentinian genus *Oltacloea* Mello-Leitão, 1940) are presumably just a further modification of the type of trochanter seen in *Platyoides*. I have not found any definitive evidence that *Platyoides* (exclusive of the species of *Trochanteria*) is monophyletic, but there is also no indication (from genitalic structure, for example) that the species of *Trochanteria* are more closely related to some *Platyoides* species than to others. Accordingly, the classical generic division between the South American and African taxa should be

retained unless and until evidence becomes available to justify a change.

PLATYOIDES O. P.-CAMBRIDGE

Platyoides O. P.-Cambridge, 1890, p. 624 [type species by monotypy *Platyoides abrahami* O. P.-Cambridge, = *P. walteri* (Karsch)].

Pseudoplatyoides Strand, 1908, p. 36 (type species, designated by Bonnet, 1958, p. 3819, *Platyoides bidentatus* Strand). First synonymized by Roewer, 1954, p. 350.

DIAGNOSIS: The combined presence of a flattened body, laterigrade legs, and fourth trochanters that are much longer than the other trochanters but shorter than the fourth femur distinguishes *Platyoides* from all other gnaphosoids.

DESCRIPTION: Body size sexually dimorphic, females much larger than males. Carapace (figs. 1, 4) flattened, longer than wide, widest between coxae II and III, abruptly narrowed just behind clypeus, slightly invaginated at middle of posterior margin, at least part of that margin reflexed; cephalic grooves obvious, thoracic groove represented by posteriorly directed triangular depression about one-eighth of carapace width, situated back about five-eighths of carapace length; surface with numerous marginal setae and few scattered setae elsewhere. Eight eyes in two rows (fig. 1), posterior row wider than anterior, both rows almost straight; AME circular, dark, ALE and PLE oval, light, on small tubercles, PME flattened (fig. 6), irregularly oval, light; all eyes except PME ringed with black pigment; eyes subequal in size, both pairs of medians usually closer to each other than to laterals; MOQ wider in back than in front and than long. Clypeal height at AME roughly half their diameter. Chelicerae (figs. 1, 2) enlarged, projecting forward distance up to one-third of carapace length, laterally divergent, bearing long curved fangs; dentition variable (see species descriptions); cheliceral gland openings in long narrow depression situated proximally on retromargin (figs. 9, 10). Labium almost as wide as long, narrowed and rebordered distally. Endites elongate, smoothly narrowed opposite insertion of trochanters, obliquely depressed just anterior of trochanter insertion (fig. 5), with anterome-

dian and distal scopulae but without serrula (absence confirmed by scanning electron microscopy). Sternum (fig. 2) slightly longer than wide, with elongated, reflexed anterior margin and broad truncated posterior margin, strongly rebordered with rounded sclerotizations extending between, and long pointed sclerotizations extending to, coxae; coxae IV separated by about half their length. Abdomen (figs. 1, 2, 4) flattened, all surfaces with short weak setae, bearing six spinnerets, anteriors sclerotized, conical, separated at base by about half their basal width, with vaguely distinguishable, medially directed apical segment (fig. 7), medians short, those of females with expanded tips bearing rows of about three spigots on each side (figs. 3, 8), posteriors shorter than anteriors, with short wide apical segment; colulus represented only by setae. Leg formula variable, second or fourth pair usually longest, first or third shortest. Legs laterigrade, with long bristles but no spines; metatarsi and tarsi I and II lightly scopulate; tarsi with two dentate claws, without claw tufts; metatarsi without preening combs; trochanters unnotched, fourth pair elongated, twice as long as third pair (fig. 2); coxae IV elongated, one-third longer than coxae III; tarsi with two rows, metatarsi and tibiae with single row of trichobothria, trichobothrial bases smooth; tarsal organ capsulate. Female palp with strong bristles, tarsi not shortened, with long dentate claw.

UNCERTAIN NAMES: *Platyoides bidentatus* Strand (1906) of Ethiopia and *P. unidentatus* Lawrence (1927) of Namibia were based on juveniles and are therefore regarded as *nomen dubia*.

SUBGENERA: Roewer (1954) retained *Pseudoplatyoides* Strand as a subgenus; the subgenus is abandoned here because the name of its type species is a *nomen dubium*.

DISTRIBUTION: Africa from Angola and southern Ethiopia south to the Cape Province; Canary Islands; Madagascar; Réunion; Aldabra.

NATURAL HISTORY: As one would expect from the flattened body, specimens have been collected under bark and stones, but *Platyoides walteri* (Karsch), the most widely distributed and most commonly collected species, is synanthropic and has been taken frequently in buildings.

IDENTIFICATION: Both sexes of each of the known species have such distinctive genitalia that a key seems superfluous.

Platyoides walteri (Karsch)

Figures 11–14

Hemicloea walteri Karsch, 1886, p. 151 (female holotype from Botsabelo, Transvaal, South Africa, in ZMB, examined).

Platyoides abrahami O. P.-Cambridge, 1890, p. 625, figs. 4, 4a–g (penultimate female holotype from South Africa, no specific locality, in CML, examined). NEW SYNONYMY.

Platyoides bottegi Pavesi, 1895, p. 509 (female holotype from Alto Ganale Guddà, Arusi, Ethiopia, in MCSNG, examined). NEW SYNONYMY.

Platyoides laterigradus Pocock, 1898, p. 219, fig. 12 (female holotype from Estcourt, Natal, South Africa, in BMNH, examined). NEW SYNONYMY.

Platyoides bidentatus Purcell, 1907, p. 297, figs. 1, 2 (male and female syntypes from Kentani, Natal, South Africa, should be in SAM, lost). Preoccupied by *P. bidentatus* Strand (1906).

Platyoides separata O. P.-Cambridge, 1907, p. 819, figs. 7–12 (female holotype from East London, Cape Province, South Africa, in HEC, examined). NEW SYNONYMY.

Platyoides simonii O. P.-Cambridge, 1907, p. 820, figs. 13–17 (male holotype from Cape Province, no specific locality, South Africa, in HEC, examined). NEW SYNONYMY.

Platyoides bidentifer Strand, 1908, p. 267 (*nomen novum* for *P. bidentatus* Purcell). NEW SYNONYMY.

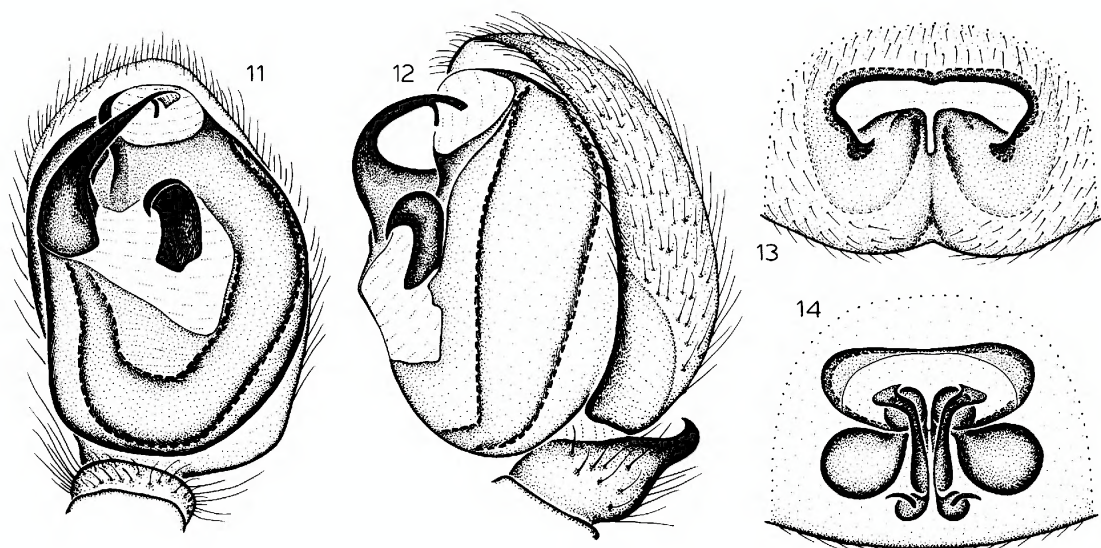
Platyoides simoni: Tucker, 1923, p. 262.

Platyoides separatus: Roewer, 1954, p. 350.

Platyoides walteri: Roewer, 1954, p. 351.

DIAGNOSIS: Males seem closest to those of *P. alpha*, with which they share a ventrally arched and distally divided embolus, but can be distinguished by the much shorter retrolateral tibial apophysis (fig. 12); females resemble those of *P. alpha*, *P. rossi*, and *P. fitzsimonsi* but can easily be distinguished by the short, wide epigynal atrium (fig. 13).

MALE: Total length, not including chelicerae, 4.75. Carapace 1.84 long, 1.58 wide. Femur II 2.16 long. Eye sizes and interdistances: AME 0.10, ALE 0.12, PME 0.11, PLE 0.11; AME–AME 0.11, AME–ALE 0.09, PME–PME 0.13, PME–PLE 0.18, ALE–PLE 0.12; MOQ length 0.29, front width 0.30, back width 0.34. Cheliceral promargin with



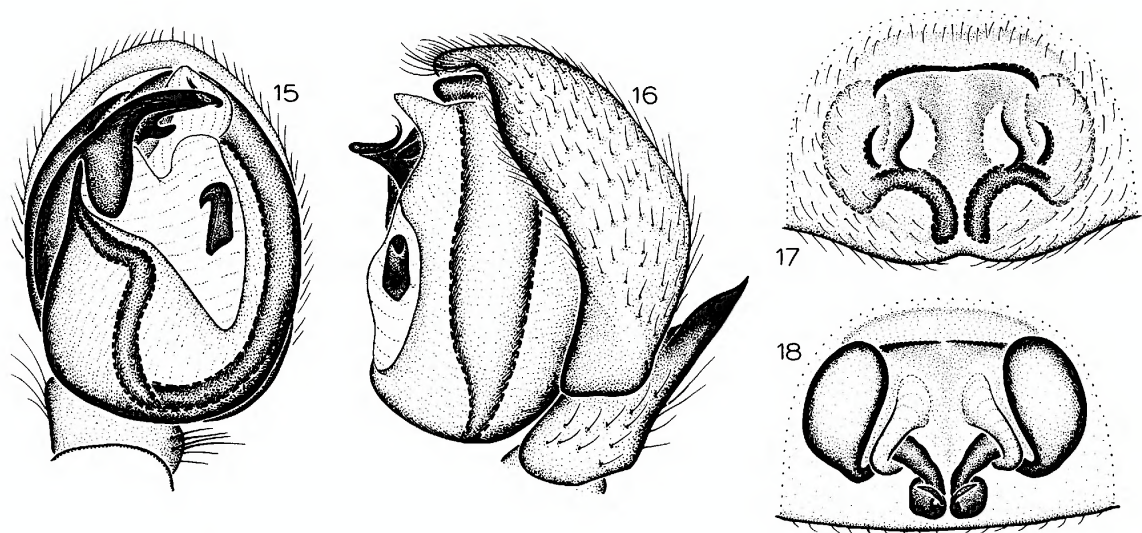
FIGS. 11–14. *Platyoides walteri* (Karsch). 11. Palp, ventral view. 12. Palp, retrolateral view. 13. Epigynum, ventral view. 14. Epigynum, dorsal view.

two widely separated teeth, retromargin bare. Abdominal dorsum with gray maculations strongest along midline and sides. Embolus arched ventrally, bifid distally (fig. 11); retrolateral tibial apophysis short, recurved (fig. 12).

FEMALE: Total length, not including chelicerae, 8.92. Carapace 3.98 long, 3.67 wide. Femur II 4.63 long. Eye sizes and interdistances: AME 0.14, ALE 0.17, PME 0.16, PLE 0.15; AME–AME 0.22, AME–ALE 0.30, PME–PME 0.35, PME–PLE 0.55, ALE–PLE 0.30; MOQ length 0.46, front width 0.50, back width 0.67. Cheliceral dentition and abdominal coloration as in male. Epigynal atrium short, wide (fig. 13; posterior width of atrium varies, so that overall shape ranges from that figured to almost rectangular); paramechanical ducts distally divergent (fig. 14).

MATERIAL EXAMINED: **Ethiopia:** *Arusi:* Alto Ganale Guddà, Apr. 1883 (V. Böttger, MCSNG), 1♀ (type). **South Africa:** no specific locality (N. Abraham, CML), 1♀ (type). **Cape Province:** no specific locality (R. Hancock, HEC), 1♂ (type); Berlin, Jan. 18, 1973 (P. Swanepoel, NCAP), 1♀; East London (R. Hancock, HEC), 1♀ (type); Grahamstown, Jan. 8, 1974, on wall of outbuilding (P. M. Croeser, NCAP), 1♀, Apr. 27, 1980, in cardboard box (P. M. Croeser, NCAP), 1♀; King William's Town (BMNH), 4♀; Qulorak-

went, Transkei, Jan. 1962 (NM), 1♀. **Natal:** Dundee, Oct. 29, 1981, under rock (A. Macdonald, NM), 1♀; Durban, Aug. 7, 1972 (F. L. Farquharson, NM), 1♀; Empangeni, Zululand, Feb. 7, 1983, in house (P. E. Reavell, NM), 1♀, Aug. 15, 1983, elevation 110 m, on carpet in house (P. E. Reavell, NM), 1♀; Estcourt (BMNH), 1♀, elevation 4000 ft. (BMNH), 1♀ (type), Aug. 1941 (R. F. Lawrence, NM), 1♀; Hluhluwe Reserve, Zululand, Oct. 1935 (NM), 1♀; Kosi Bay, July 1936 (NM), 1♂, 1♀, Jan. 1937 (van Rechen, NM), 3♀; Margate, Apr. 1940 (W. G. Rump, NM), 1♀; Pietermaritzburg, 1917 (C. Akerman, NM), 1♀, Jan. 1922 (L. Kelsall, NM), 1♀, July 1944 (R. F. Lawrence, NM), 1♀, June 1951 (R. F. and A. Lawrence, NM), 1♂, May 1954 (NM), 1♀, Oct.–Nov. 1971 (B. Lamoral, NM), 1♀, Nov. 24, 1977, under bark (J. G. H. Londt, NM), 1♀, May 1980 (R. Fregona, NM), 1♀, May 31, 1983, on inside wall of house (D. L. and P. M. Croeser, NM), 1♀; Umhlali, Feb. 1940 (R. F. Lawrence, MRAC), 1♀. **Orange Free State:** Bethulie (Leppan, BMNH), 2♀. **Transvaal:** Botsabelo (Walter, ZMB), 1♀ (type); Magaliesburg, Apr. 1976 (F. Wanless, BMNH), 1♀; Mariepskop, Nov. 1925 (V. Fitzsimons, G. van Dam, TM), 2♀; Nelspruit, Jan. 1982 (M. van den Berg, NCAP), 1♀; Outlook Estate, Zoutpansberg, Dec. 16, 1978 (MZB), 1♀; Pretoria, Feb. 1965 (H. K. Munro,



FIGS. 15–18. *Platyoides alpha* Lawrence. 15. Palp, ventral view. 16. Palp, retrolateral view. 17. Epigynum, ventral view. 18. Epigynum, dorsal view.

NM), 1♀, Apr. 4, 1976 (M. Zwiegelaar, NCAP), 1♀, June 14, 1978, in house (Seekings, NCAP), 1♀, Dec. 12, 1978 (M. Bolton, NCAP), 1♀, Mar. 20, 1981, among papers (E. Hartwig, NCAP), 1♂, Jan. 3, 1984, in garden (NCAP), 1♀. **Swaziland:** Gollel, July 1938 (NM), 1♀; Mbabane (MRAC), 1♀. **Zimbabwe:** Bulawayo, June 17, 1979, hillside (M. Sanderson, MZB), 1♀; Salisbury, Sept. 22, 1899 (G. A. K. Marshall, BMNH), 2♀.

DISTRIBUTION: Widespread in South and east Africa, from the Cape Province to the mountains of southern Ethiopia.

SYNONYMY: The redescrptions are due to the initial generic misplacement of *P. walteri*, to separate descriptions of the two sexes, and to the apparent inaccessibility of earlier type material to each succeeding worker.

Platyoides alpha Lawrence

Figures 15–18

Platyoides alpha Lawrence, 1928, p. 226, fig. 6 (male lectotype, here designated, from Kaoko Otavi, Namibia, in SAM, examined).

Platyoides beta Lawrence, 1928, p. 226, fig. 7 (female holotype from Outjo, Namibia, in SAM, examined). **NEW SYNONYMY.**

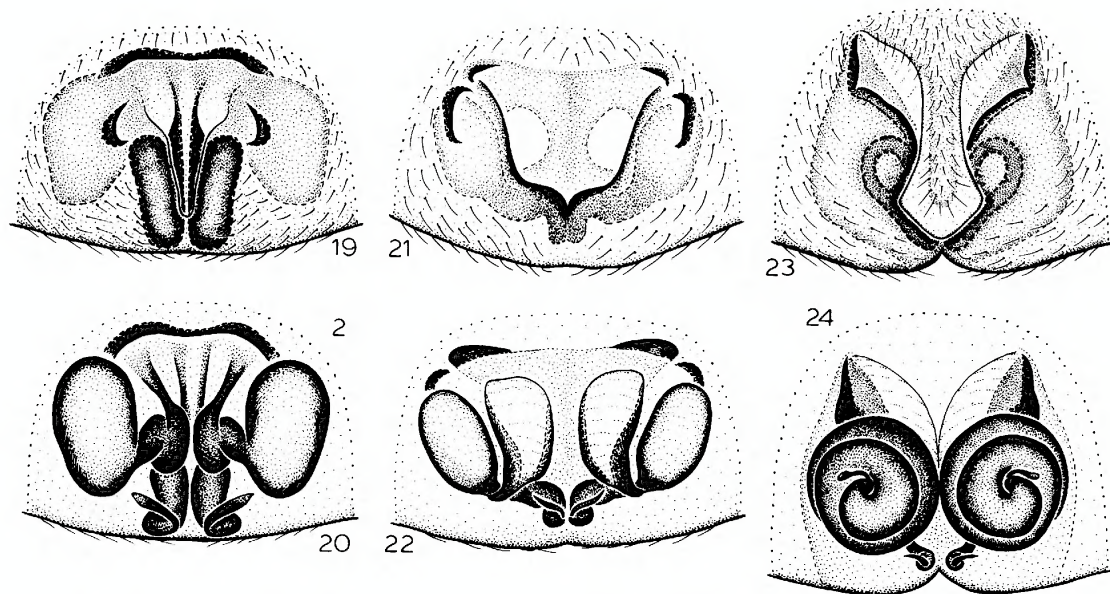
DIAGNOSIS: Males seem closest to those of *P. walteri* but can be distinguished by the much longer retrolateral tibial apophysis (fig.

16); females can be recognized by the anteriorly convergent paramedian ducts of the internal genitalia (fig. 18).

MALE: Total length, not including chelicerae, 5.78. Carapace 2.49 long, 2.34 wide. Femur II 3.67 long. Eye sizes and interdistances: AME 0.11, ALE 0.12, PME 0.13, PLE 0.12; AME–AME 0.11, AME–ALE 0.13, PME–PME 0.15, PME–PLE 0.24, ALE–PLE 0.10; MOQ length 0.33, front width 0.33, back width 0.41. Cheliceral promargin with distal tooth and proximal denticle, retromargin bare. Abdominal dorsum gray with longitudinal paramedian white stripes on posterior three-quarters. Embolus arched ventrally, bifid distally (fig. 15); retrolateral tibial apophysis long, distally narrowed (fig. 16).

FEMALE: Total length, not including chelicerae, 7.32. Carapace 2.76 long, 2.65 wide. Femur II 3.62 long. Eye sizes and interdistances: AME 0.11, ALE 0.13, PME 0.13, PLE 0.12; AME–AME 0.17, AME–ALE 0.18, PME–PME 0.25, PME–PLE 0.32, ALE–PLE 0.14; MOQ length 0.33, front width 0.39, back width 0.51. Cheliceral dentition and abdominal coloration as in male. Epigynum with two pairs of lateral margins (fig. 17); paramedian ducts translucent, anteriorly convergent (fig. 18).

MATERIAL EXAMINED: **Angola:** Mo-



FIGS. 19–24. 19, 20. *Platyoides rossi*, new species. 21, 22. *P. fitzsimonsi* Lawrence. 23, 24. *P. velonus*, new species. 19, 21, 23. Epigynum, ventral view. 20, 22, 24. Epigynum, dorsal view.

çâmedes: 17 mi. W Vila Arriaga, Dec. 10, 1966, elevation 620 m (E. S. Ross, K. Lorenzen, CAS), 1♂. **Namibia**: Huab Farm, Outjo district, June 26, 1931 (V. Fitzsimons, TM), 1♀; Kaoko Otavi, Kaokaland, Jan.–Apr. 1926 (R. F. Lawrence, SAM), 1♂ (lectotype); Outjo, Jan. 1925 (SAM), 1♀; Sesfontein, Kaokaland, Jan.–Apr. 1925 (SAM), 1♂ (paralectotype). **South Africa**: *Transvaal*: Ons Eigegrond, 40 km W Messina, June 16, 1979, under stone (M. Stiller, NCAP), 1♀.

DISTRIBUTION: Angola, Namibia, and South Africa.

SYNONYMY: Similarities of each sex to those of *P. walteri* indicate that Lawrence (1928) was probably correct in suggesting that *P. beta* is the female of *P. alpha*.

***Platyoides rossi*, new species**

Figures 19, 20

TYPE: Female holotype taken at an elevation of 300 m at Karreedouw, Cape Province, South Africa (April 22, 1958; E. S. Ross and R. E. Leech), deposited in CAS.

ETYMOLOGY: The specific name is a patronym in honor of Dr. E. S. Ross of the California Academy of Sciences, in recognition of the valuable spider collections he has made on several continents.

DIAGNOSIS: Females resemble those of *P. walteri*, *P. alpha*, and *P. fitzsimonsi* but can be distinguished by the long, parallel posterior epigynal ducts (figs. 19, 20).

MALE: Unknown.

FEMALE: Total length, not including chelicerae, 7.97. Carapace 3.42 long, 3.24 wide. Femur II 3.71 long. Eye sizes and interdistances: AME 0.12, ALE 0.13, PME 0.14, PLE 0.14; AME–AME 0.19, AME–ALE 0.28, PME–PME 0.29, PME–PLE 0.40, ALE–PLE 0.24; MOQ length 0.38, front width 0.43, back width 0.57. Cheliceral dentition and abdominal coloration as in *P. alpha*. Epigynum with short lateral margins (fig. 19); posterior ducts long, parallel (fig. 20).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the Cape Province of South Africa.

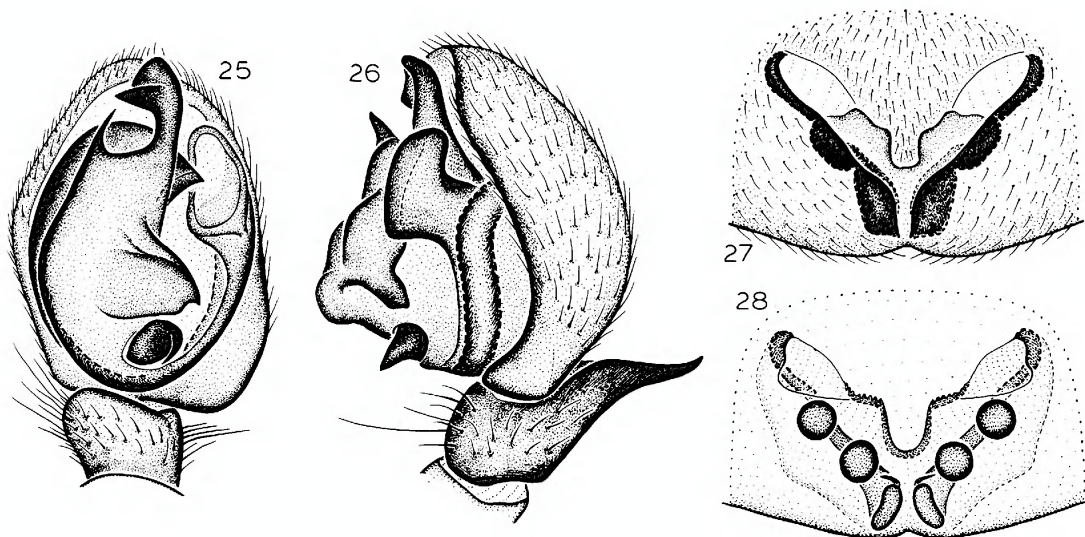
***Platyoides fitzsimonsi* Lawrence**

Figures 21, 22

Platyoides fitzsimonsi Lawrence, 1938, p. 216, fig. 2 (female holotype from Barby Farm, 20 mi. W Helmeringshausen, Bethanie district, Namibia, in TM, examined).

Platyoides fitzsimonsi: Bonnet, 1958, p. 3701 (invalid emendation).

DIAGNOSIS: Females resemble those of *P.*



FIGS. 25–28. *Platyooides pusillus* Pocock. 25. Palp, ventral view. 26. Palp, retrolateral view. 27. Epigynum, ventral view. 28. Epigynum, dorsal view.

walteri, *P. alpha*, and *P. rossi* but can be distinguished by the very widely separated lateral epigynal margins (fig. 21).

MALE: Unknown.

FEMALE: Total length, not including chelicerae, 9.00. Carapace 2.99 long, 2.92 wide. Femur II 3.72 long. Eye sizes and interdistances: AME 0.13, ALE 0.16, PME 0.15, PLE 0.13; AME–AME 0.12, AME–ALE 0.18, PME–PME 0.19, PME–PLE 0.34, ALE–PLE 0.17; MOQ length 0.38, front width 0.38, back width 0.49. Cheliceral dentition as in *P. alpha*. Abdominal dorsum faded, pale ashy gray according to Lawrence. Lateral epigynal margins widely separated (fig. 21); paramedian ducts almost as large as spermathecae (fig. 22).

MATERIAL EXAMINED: Only the holotype, collected by V. Fitzsimons on July 26, 1937.

DISTRIBUTION: Known only from Namibia.

Platyooides pusillus Pocock
Figures 25–28

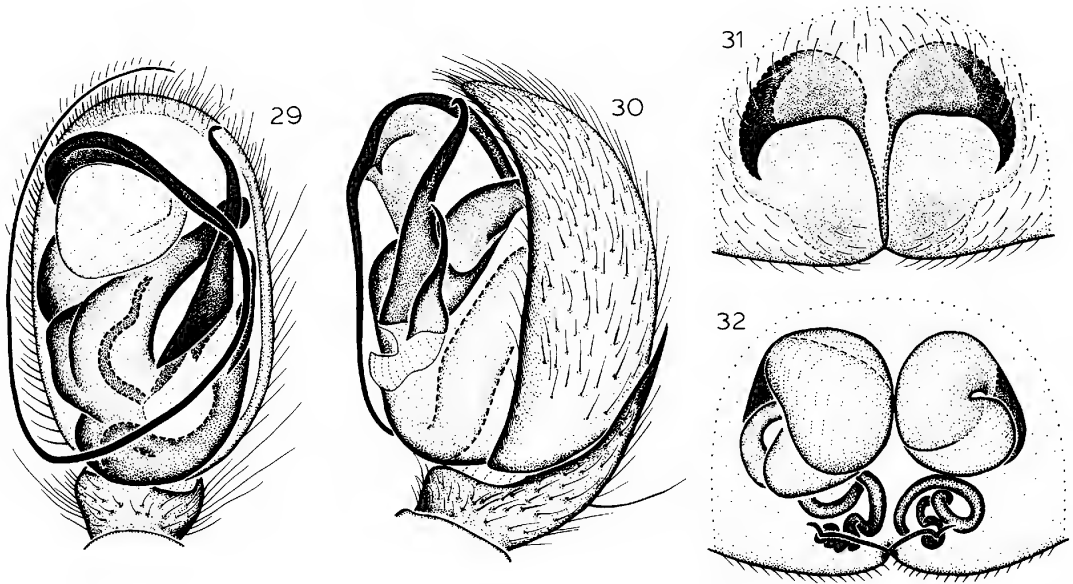
Platyooides pusillus Pocock, 1898, p. 220, fig. 13 (female holotype from Estcourt, Natal, South Africa, in BMNH, examined).

Platyooides pusilliformis Tucker, 1923, p. 260, fig. 3 (female holotype from Kentani, Cape Province, South Africa, in SAM, examined). NEW SYNONYMY.

DIAGNOSIS: This distinctive species is easily recognized by the ventrally protuberant embolar base of males (fig. 25) and the anteriorly divergent lateral epigynal margins of females (fig. 27).

MALE: Total length, not including chelicerae, 4.79. Carapace 1.91 long, 1.89 wide. Femur II 2.27 long. Eye sizes and interdistances: AME 0.09, ALE 0.10, PME 0.09, PLE 0.11; AME–AME 0.11, AME–ALE 0.11, PME–PME 0.14, PME–PLE 0.19, ALE–PLE 0.12; MOQ length 0.26, front width 0.29, back width 0.32. Cheliceral dentition as in *P. walteri*. Abdominal dorsum white with lateral dark gray longitudinal stripes extended toward midline in narrow incomplete transverse stripe at about one-fifth of length. Embolar base produced ventrally (fig. 25); retrolateral tibial apophysis directed dorsally (fig. 26).

FEMALE: Total length, not including chelicerae, 6.91. Carapace 2.16 long, 2.15 wide. Femur II 2.23 long. Eye sizes and interdistances: AME 0.08, ALE 0.10, PME 0.09, PLE 0.10; AME–AME 0.15, AME–ALE 0.14, PME–PME 0.20, PME–PLE 0.23, ALE–PLE 0.11; MOQ length 0.26, front width 0.31, back width 0.38. Cheliceral dentition and coloration as in male except abdominal dorsum with second incomplete transverse stripe at about half of length and additional median



FIGS. 29–32. *Platyoides leppanae* Pocock. 29. Palp, ventral view. 30. Palp, retrolateral view. 31. Epigynum, ventral view. 32. Epigynum, dorsal view.

dark gray spot at about three-quarters of length. Epigynal margins strongly divergent anteriorly (fig. 27); spermathecae posteriorly situated (fig. 28).

MATERIAL EXAMINED: **South Africa:** *Cape Province:* Kentani, 1909 (H. P. Abernathy, SAM), 1♀ (type). *Natal:* Estcourt, elevation 4000 ft. (G. A. K. Marshall, BMNH), 1♀ (type); Karkloof, 25 km NNW Pietermaritzburg, Jan. 15, 1984, elevation 5000 ft., under *Eucalyptus* bark (C. Griswold and T. Meikle-Griswold, NM), 1♀. **Tanzania:** *Arusha:* E side, Mt. Meru, Arusha National Park, June–July 1974, elevation 5500 ft. (B. D. Valentine family, AJP), 1♂, 1♀. **Zimbabwe:** Chirinda Forest, 18 mi. S Chipinga, Mar. 18, 1958, elevation 1110 m (E. S. Ross, R. E. Leech, CAS), 1♀.

DISTRIBUTION: Tanzania south to the Transkei.

SYNONYMY: Tucker was misled by Pocock's somewhat diagrammatic sketch of the epigynum of *P. pusillus*.

Platyoides leppanae Pocock

Figures 29–32

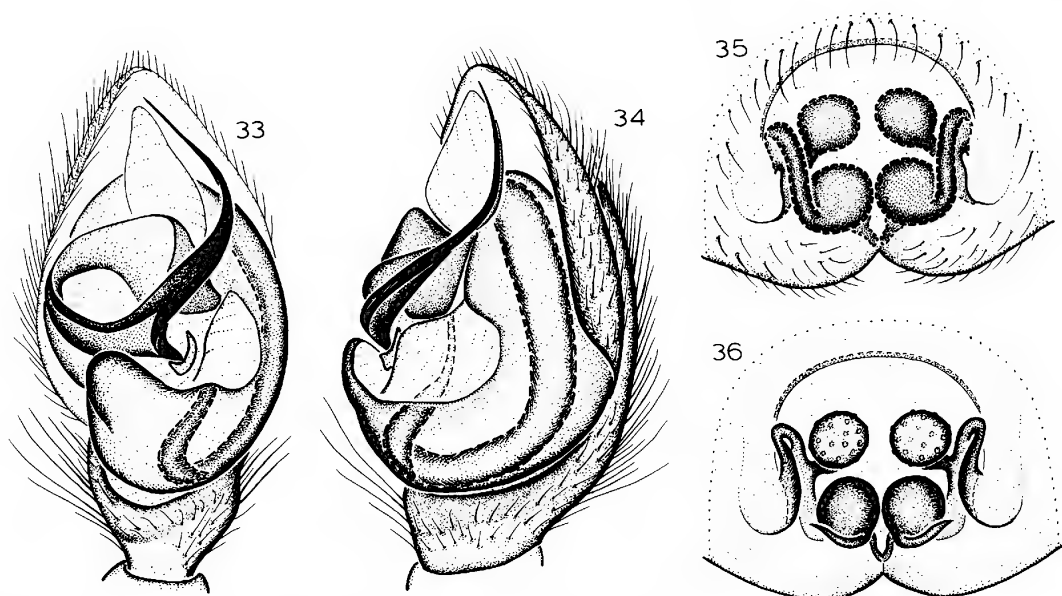
Platyoides leppanae Pocock, 1902, p. 19, pl. 3, fig. 8 (two male and four female syntypes from Tea Fountain, Grahamstown, Cape Province, South Africa, in BMNH, examined).

Platyoides lawrencei Lessert, 1936, p. 217, figs. 10, 11 (male holotype from Vila Pery, Manica So-fala, Mozambique, in MHNG, examined). **NEW SYNONYMY.**

DIAGNOSIS: Males can be recognized easily by the coiled embolus (figs. 29, 30); females resemble those of *P. velonus* in having coiled spermathecae, but can be distinguished by the narrow epigynal septum (fig. 31).

MALE: Total length, not including chelicerae, 7.42. Carapace 3.36 long, 3.06 wide. Femur II 4.09 long. Eye sizes and interdistances: AME 0.13, ALE 0.11, PME 0.13, PLE 0.11; AME–AME 0.14, AME–ALE 0.36, PME–PME 0.37, PME–PLE 0.54, ALE–PLE 0.28; MOQ length 0.40, front width 0.40, back width 0.63. Cheliceral promargin with three widely spaced teeth, retromargin bare. Abdominal dorsum white with dark gray median and lateral dark stripes connected across anterior and posterior surfaces. Embolus elongate, coiled (fig. 29); retrolateral tibial apophysis long (fig. 30).

FEMALE: Total length, not including chelicerae, 9.82. Carapace 3.71 long, 3.42 wide. Femur II 4.12 long. Eye sizes and interdistances: AME 0.13, ALE 0.12, PME 0.14, PLE 0.13; AME–AME 0.19, AME–ALE 0.47, PME–PME 0.41, PME–PLE 0.54, ALE–PLE



FIGS. 33–36. *Platyoides grandidieri* Simon. 33. Palp, ventral view. 34. Palp, retrolateral view. 35. Epigynum, ventral view. 36. Epigynum, dorsal view.

0.31; MOQ length 0.40, front width 0.45, back width 0.69. Cheliceral dentition and abdominal coloration as in male. Epigynal septum narrow (fig. 31); spermathecae coiled (fig. 32).

MATERIAL EXAMINED: **Mozambique:** *Manica Sofala*: Vila Pery, Nov. (P. Lesne, MHNG), 1♂ (type). **South Africa:** *Cape Province*: Resolution Farm, Albany district (A. Walton, TM), 1♂, 1♀; Pacaltsdorp, 1899, coast (L. Leipoldt, SAM), 2♀; Tea Fountain, Grahamstown (Leppan, BMNH), 2♂, 4♀ (types). **Natal**: Kosi Bay, July 1936 (NM), 1♂; Underberg, 1951 (G. A. Kenneth, MRAC), 1♀.

DISTRIBUTION: Mozambique and South Africa.

SYNONYMY: Lessert's redescription was due to the lack of a palpal illustration of *P. lepanae*.

***Platyoides velonus*, new species**

Figures 1–4, 23, 24

TYPE: Female holotype from Fanivelona (Ambinanysakaleona), Fianarantsoa, Madagascar (September; no collector), deposited in AMNH.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: The large, posteriorly widened epigynal septum (fig. 23) is diagnostic.

MALE: Unknown.

FEMALE: Total length, not including chelicerae, 9.47. Carapace 2.92 long, 2.77 wide. Femur II 3.42 long. Eye sizes and interdistances: AME 0.14, ALE 0.14, PME 0.13, PLE 0.13; AME–AME 0.15, AME–ALE 0.19, PME–PME 0.31, PME–PLE 0.31, ALE–PLE 0.14; MOQ length 0.35, front width 0.43, back width 0.57. Chelicerae with two very widely separated promarginal teeth and single retromarginal tooth situated near proximal promarginal tooth. Abdominal dorsum white with longitudinal median and lateral dark stripes. Epigynum with large, medially hirsute septum (fig. 23); spermathecae coiled (fig. 24).

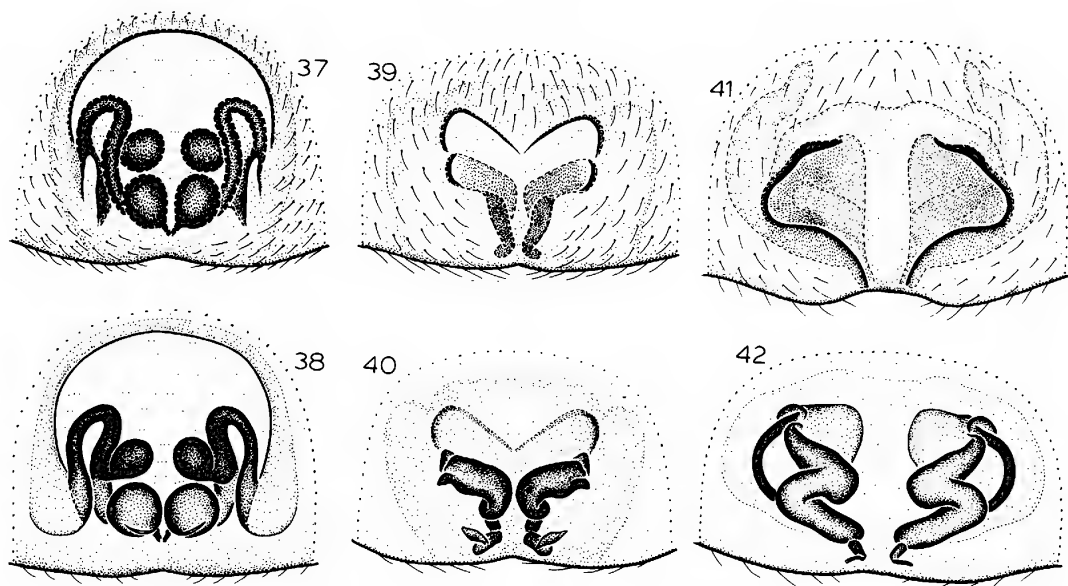
OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from Madagascar.

***Platyoides grandidieri* Simon**

Figures 5–10, 33–36

Platyoides grandidieri Simon, 1903, p. 139 (female holotype from Madagascar, no specific locality, in MNHN, examined by Schmidt and Jocqué, 1983, pp. 354, 363, fig. 1).



FIGS. 37–42. 37, 38. *Platyoides venturus*, new species. 39, 40. *P. pictus* Pocock. 41, 42. *P. quinque-dentatus* Purcell. 37, 39, 41. Epigynum, ventral view. 38, 40, 42. Epigynum, dorsal view.

DIAGNOSIS: Males can easily be recognized by the extremely long retrolateral tibial apophysis (fig. 34); females resemble those of *P. venturus* but can be distinguished by the shorter lateral epigynal ducts and proportionately larger spermathecae (figs. 35, 36).

MALE: Total length, not including chelicerae, 4.48. Carapace 1.91 long, 1.87 wide. Femur II 2.96 long. Eye sizes and interdistances: AME 0.07, ALE 0.08, PME 0.09, PLE 0.11; AME–AME 0.08, AME–ALE 0.18, PME–PME 0.18, PME–PLE 0.23, ALE–PLE 0.11; MOQ length 0.20, front width 0.22, back width 0.36. Cheliceral promargin with three small, widely separated teeth, retromargin bare. Abdominal dorsum light brownish gray, lighter posteromedially. Embolus almost semicircular (fig. 33); retrolateral tibial apophysis extending over two-thirds of cymbial length (fig. 34).

FEMALE: Total length, not including chelicerae, 7.96. Carapace 2.87 long, 2.79 wide. Femur II 3.06 long. Eye sizes and interdistances: AME 0.11, ALE 0.13, PME 0.10, PLE 0.13; AME–AME 0.12, AME–ALE 0.32, PME–PME 0.31, PME–PLE 0.39, ALE–PLE 0.11; MOQ length 0.26, front width 0.34, back width 0.51. Cheliceral dentition and abdominal coloration as in male. Epigynal

openings posterolateral (fig. 35); anterior epigynal rim near anterior pair of spermathecae (fig. 36).

MATERIAL EXAMINED: **British Indian Ocean Territory:** *Aldabra*: Malabar, 1970 (G. Hamadian, MRAC), 2♀. **Kenya:** *Coast*: Malindi, Jan. 7, 1973 (W. C. Sedgwick, AMNH), 1♂. **Madagascar:** *Diégo-Suarez*: Mailaka (J. Millot, AMNH), 1♀. *Majunga*: Namoroka (AMNH), 1♀; Tsingy de Namoroka, under calcareous platforms (J. Petit, BMNH), 1♀. *Tuléar*: Beloha, Aug. 1948, under bark (J. Millot, MNHN), 1♂, 1♀. **Mascarene Islands:** *Réunion*: Club Méditerranée, Aug. 1979, under bark (G. Schmidt, MRAC), 2♀.

DISTRIBUTION: Kenya, Aldabra, Madagascar, and Réunion.

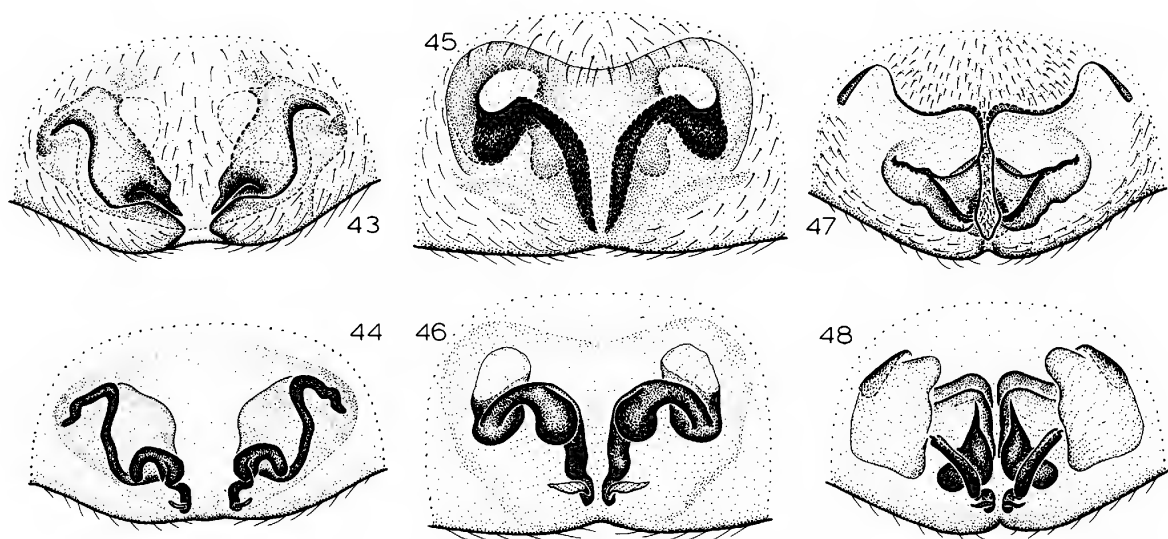
Platyoides venturus, new species

Figures 37, 38

TYPE: Female holotype from Llanos de Ortega, Fuerteventura, Canary Islands (July 8, 1971; Fernandez), deposited in AMNH.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: Females are closest to those of *P. grandidieri* but can be distinguished by the



FIGS. 43–48. 43, 44. *Platyoides costeri* Tucker. 45, 46. *P. pirie*, new species. 47, 48. *P. mailaka*, new species. 43, 45, 47. Epigynum, ventral view. 44, 46, 48. Epigynum, dorsal view.

longer lateral epigynal ducts and proportionately smaller spermathecae (figs. 37, 38).

MALE: Unknown.

FEMALE: Total length, not including chelicerae, 11.02. Carapace 4.03 long, 3.98 wide. Femur II 4.97 long. Eye sizes and interdistances: AME 0.16, ALE 0.17, PME 0.19, PLE 0.19; AME–AME 0.18, AME–ALE 0.41, PME–PME 0.38, PME–PLE 0.52, ALE–PLE 0.21; MOQ length 0.48, front width 0.50, back width 0.76. Cheliceral promargin with three large, widely separated teeth, retro-margin bare. Abdominal dorsum pale yellow with dark gray lateral longitudinal stripes and additional dark gray cardiac mark. Epigynal openings posterolateral (fig. 37); anterior epigynal rim far from anterior pair of spermathecae (fig. 38).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the Canary Islands.

Platyoides pictus Pocock

Figures 39, 40

Platyoides pictus Pocock, 1902, p. 19, pl. 3, fig. 7 (five female syntypes from Tea Fountain, Grahamstown, Cape Province, South Africa, in BMNH, examined).

DIAGNOSIS: Females resemble those of *P. quinquedentatus* in having obliquely oriented

spermathecae, but differ in having a prominent anterior epigynal margin (fig. 39).

MALE: Unknown.

FEMALE: Total length, not including chelicerae, 7.20. Carapace 3.17 long, 2.72 wide. Femur II 3.31 long. Eye sizes and interdistances: AME 0.14, ALE 0.14, PME 0.16, PLE 0.13; AME–AME 0.18, AME–ALE 0.22, PME–PME 0.27, PME–PLE 0.39, ALE–PLE 0.18; MOQ length 0.46, front width 0.46, back width 0.59. Cheliceral dentition as in *P. walteri*. Abdominal dorsum pale yellow with lateral dark gray longitudinal stripes and median dark gray stripe divided anteriorly so as to outline cardiac area. Anterior epigynal margin prominent (fig. 39); spermathecae rectangular, oblique (fig. 40).

MATERIAL EXAMINED: Only the syntypes, collected by Miss Leppan.

DISTRIBUTION: Known only from the Cape Province of South Africa.

Platyoides quinquedentatus Purcell

Figures 41, 42

Platyoides quinquedentatus Purcell, 1907, p. 299, fig. 3 (two female syntypes from Swellendam, Cape Province, South Africa, in SAM, examined).

DIAGNOSIS: Females resemble those of *P.*

pictus but differ in having large, almost semi-circular lateral epigynal margins (fig. 41).

MALE: Unknown.

FEMALE: Total length, not including chelicerae, 10.30. Carapace 4.21 long, 3.71 wide. Femur II 4.57 long. Eye sizes and interdistances: AME 0.18, ALE 0.19, PME 0.19, PLE 0.19; AME-AME 0.21, AME-ALE 0.42, PME-PME 0.40, PME-PLE 0.56, ALE-PLE 0.31; MOQ length 0.51, front width 0.57, back width 0.78. Cheliceral promargin with five equally spaced teeth, retromargin bare. Abdominal dorsum brownish gray with two narrow longitudinal paramedian white bands not reaching to posterior end. Lateral epigynal margin almost semicircular (fig. 41); spermathecae oblique (fig. 42).

MATERIAL EXAMINED: **South Africa:** *Cape Province:* Swellendam, 1900 (H. A. Fry, SAM), 2♀ (types), Mar. 1931 (van der Byl, SAM), 1♀.

DISTRIBUTION: Known only from the Cape Province of South Africa.

Platyoides costeri Tucker

Figures 43, 44

Platyoides costeri Tucker, 1923, p. 256, fig. 1 (female holotype from Mossel Bay, Cape Province, South Africa, in SAM, examined).

DIAGNOSIS: Females resemble those of *P. pirie* in the way the spermathecae arise from the epigynal ducts but differ in having more posteriorly situated spermathecae (fig. 44).

MALE: Unknown.

FEMALE: Total length, not including chelicerae, 10.57. Carapace 5.08 long, 4.66 wide. Femur II 5.54 long. Eye sizes and interdistances: AME 0.21, ALE 0.27, PME 0.21, PLE 0.24; AME-AME 0.24, AME-ALE 0.47, PME-PME 0.57, PME-PLE 0.65, ALE-PLE 0.28; MOQ length 0.56, front width 0.66, back width 0.99. Cheliceral dentition as in *P. quinquedentatus*. Abdominal dorsum pale yellow with lateral and median longitudinal gray bands merging posteriorly. Epigynum very wide (fig. 43); spermathecae arising from oblique ducts (fig. 44).

MATERIAL EXAMINED: Only the holotype, collected in February, 1919, by J. H. Power.

DISTRIBUTION: Known only from the Cape Province of South Africa.

Platyoides pirie, new species

Figures 45, 46

TYPE: Female holotype from Pirie Forest, King William's Town, Cape Province, South Africa (April 1937; R. F. Lawrence), deposited in NM.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females resemble those of *P. costeri* but have more anteriorly situated spermathecae (fig. 46).

MALE: Unknown.

FEMALE: Total length, not including chelicerae, 9.36. Carapace 3.71 long, 3.43 wide. Femur II 4.14 long. Eye sizes and interdistances: AME 0.16, ALE 0.16, PME 0.19, PLE 0.17; AME-AME 0.25, AME-ALE 0.38, PME-PME 0.42, PME-PLE 0.50, ALE-PLE 0.26; MOQ length 0.43, front width 0.57, back width 0.80. Cheliceral promargin with six subequally spaced teeth, retromargin bare. Abdominal dorsum light gray with cardiac area slightly darkened. Epigynal openings anterior (fig. 45); spermathecae arising from oblique ducts (fig. 46).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the type locality.

Platyoides mailaka, new species

Figures 47, 48

TYPE: Female holotype from Mailaka, Diégo-Suarez, Madagascar (no date; J. Millot), deposited in MNHN.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Females of this distinctive species are easily recognized by the wide anterior epigynal margin (fig. 47).

MALE: Unknown.

FEMALE: Total length, not including chelicerae, 4.36. Carapace 1.80 long, 1.76 wide. Femur II 1.94 long. Eye sizes and interdistances: AME 0.09, ALE 0.10, PME 0.10, PLE 0.11; AME-AME 0.09, AME-ALE 0.09, PME-PME 0.14, PME-PLE 0.18, ALE-PLE 0.11; MOQ length 0.24, front width 0.34, back width 0.34. Cheliceral promargin with single large distal tooth, retromargin with two smaller proximal teeth. Abdominal dorsum white with lateral dark gray longitudinal bands

and anterior and posterior pairs of paramedian dark spots. Anterior epigynal margin wide (fig. 47); paramedian ducts oblique (fig. 48).

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from Madagascar.

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